

OIPE

RAW SEQUENCE LISTING

DATE: 03/12/2002

PATENT APPLICATION: US/09/966,803

**709/966,803** TIME: 09:44:20

Input Set : N:\Crf3\RULE60\09966803.raw
Output Set: N:\CRF3\03122002\1966803.raw

## SEQUENCE LISTING

1 (1) GENERAL INFORMATION:

```
(i) APPLICANT: Murphy et al.
      3
            (ii) TITLE OF INVENTION: Amidases
           (iii) NUMBER OF SEQUENCES: 4
            (iv) CORRESPONDENCE ADDRESS:
                  (A) ADDRESSEE: CARELLA, BYRNE, BAIN, GILFILLAN,
      7
                                  CECCHI, STEWART & OLSTEIN
                  (B) STREET: 6 BECKER FARM ROAD
      8
      9
                  (C) CITY: ROSELAND
     10
                  (D) STATE: NEW JERSEY
                                                             ENTERED
     11
                  (E) COUNTRY: USA
     12
                  (F) ZIP: 07068
     13
             (v) COMPUTER READABLE FORM:
                  (A) MEDIUM TYPE: 3.5 INCH DISKETTE
     15
                  (B) COMPUTER: IBM PS/2
     16
                  (C) OPERATING SYSTEM: MS-DOS
     17
                  (D) SOFTWARE: WORD PERFECT 5.1
     18
            (vi) CURRENT APPLICATION DATA:
C--> 19
                  (A) APPLICATION NUMBER: US/09/966,803
C--> 20
                  (B) FILING DATE: 27-Sep-2001
     21
                  (C) CLASSIFICATION:
     22
           (vii) PRIOR APPLICATION DATA:
                  (A) APPLICATION NUMBER: US/09/609,570
     23
     24
                  (B) FILING DATE: 30-Jun-2000
                  (A) APPLICATION NUMBER: 09/427,372
     25
     26
                  (B) FILING DATE:
     27
          (viii) ATTORNEY/AGENT INFORMATION:
     28
                  (A) NAME: Charles J. Herron
     29
                  (B) REGISTRATION NUMBER: 28,019
     30
                  (C) REFERENCE/DOCKET NUMBER: 331400-53
            (ix) TELECOMMUNICATION INFORMATION:
     31
     32
                  (A) TELEPHONE: 201-994-1700
     33
                  (B) TELEFAX: 201-994-1744
     34 (2) INFORMATION FOR SEQ ID NO: 1:
             (i) SEQUENCE CHARACTERISTICS:
                  (A) LENGTH: 1869 NUCLEOTIDES
     36
     37
                  (B) TYPE: NUCLEIC ACID
     38
                  (C) STRANDEDNESS: SINGLE
     39
                  (D) TOPOLOGY: LINEAR
W--> 40
            (ii) MOLECULE TYPE: DNA
     41
            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
     42
             ATG ACC GGC ATC GAA TGG AAC CAC GAG ACC TTT TCT AAG TTC GCC TAC 48
```

Input Set : N:\Crf3\RULE60\09966803.raw
Output Set: N:\CRF3\03122002\I966803.raw

W>	43 44	Met	Thr	Tly	Ile	Glu 5	Trp	Asn	His	Glu	Thr 10	Phe	Ser	Lys	Phe	<b>Ala</b> 15	Tyr	
	45	CTG	GGC	GAC	CCG	AGG	АТА	CGG	GGA	AAC		ATC	GCG	TAC	ACC	CTG	ACG	96
	46															Leu		20
	47		1		20	5		,	1	25				-1-	30			
	48	AAG	GCC	AAC	ATG	AAG	GAC	AAC	AAG	TAC	GAG	AGC	ACG	GTT	GTT	GTT	GAA	144
	49															Val		
	50	_		35		•	•		40	•				45				
	51															ATG		192
	52	Asp	Leu	Glu	Thr	Gly	Ser	Arg	Arg	Phe	Ile	Glu	Asn	Ala	Ser	Met	Pro	
	53		50					55					60					
	54															AAC		
	55		Ile	Ser	Pro	Asp		Arg	Lys	Leu	Ala		Thr	Cys	Phe	Asn		•
	56	65					70					75					80	
	57															CTG		288
	58 59	Glu	Lys	Lys	Glu	Thr 85	Glu	Ile	Trp	Val	Ala 90	Asp	Ile	Gln	Thr	Leu 95	Ser	
	60	GCC	AAG	AAA	GTC	CTC	TCA	ACT	AAA	AAC	GTC	CGC	TCG	ATG	CAG	TGG	AAC	336
	61	Ala	Lys	Lys	Val	Leu	Ser	Thr	Lys	Asn	Val	Arg	Ser	Met	Gln	Trp	Asn	
	62				100					105					110			
	63	GAC	GAT	TCA	AGG	AGA	CTC	TTA	GTT	GTC	GGC	TTC	AAG	AGG	AGG	GAC	GAT	384
	64	Asp	Asp	Ser	Arg	Arg	Leu	Leu	Val	Val	Gly	Phe	Lys	Arg	Arg	Asp	Asp	
	65			115					120					125				
	66	GAG	GAC	TTC	GTC	TTT	GAC	GAC	GAC	GTC	CCG	GTC	TGG	TTC	GAC	AAT	ATG	432
	67	Glu	_	Phe	Val	Phe	Asp	Asp	Asp	Val	Pro	Val	$\mathtt{Trp}$	Phe	Asp	Asn	Met	
	68		130					135					140					
	69															ACT		480
	70	-	Phe	Phe	Asp	Gly		Lys	$\operatorname{Thr}$	Thr	Phe		Val	Leu	Asp	Thr		
	71	145					150					155					160	
	72															AGT		528
	73	Ala	Glu	Glu	Ile		Glu	Gln	Phe	Glu		Pro	Arg	Phe	Ser	Ser	GIY	
	74	ama.	maa	a. a	222	165	aáa	3.07.3	amm.	ama.	170	ama	000	a. a	000	175	000	E 7.6
	75 76															GAG		5/6
	76 77	Leu	пр	uis	180	ASP	нта	тте	Val	185	ASII	Val	PIO	птэ	190	Glu	СТУ	
	78	ACC.	አአሮ	CCT		CTC	ጥጥረ	7 7 C	ጥጥሮ		GAC	א יחי א	CTC	СПЛ		AAG	CAC	624
	79															Lys		024
	80	Der .	шуз	195	ліа	цец	rne	цуз	200	TYL	кър	110	Vai	205	112	шуз	пэр	
	81	GGG	GAG		GAG	AAG	CTC	<b>ጥፐ</b>		AGG	GTC	ፐርር	ጥጥር		GCG	GTT	GAC	672
	82															Val		0,2
	83	0-1	210			-1-		215		5			220				E	
	84	TCC		GGA	AAG	AGA	ATA		CTG	AGG	GGC	AAG		AAA	AAG	CGG	TTC	720
	85															Arg		
	86	225		- 1	_	. ,	230			,		235	•	* -	-	,	240	
	87		AGC	GAG	CAC	GAC		CTG	TAC	CTC	TGG		GGC	GAG	CTT	AAA		768
		Ile																
	89					245	-		-		250	-	_			255		
	90	ATC	TAC	GAG	GGC	CCG	CTC	GAC	GTC	TGG	GAA	GCC	AAG	CTC	ACG	GAA	GGA	816
	91															Glu		

Input Set : N:\Crf3\RULE60\09966803.raw
Output Set: N:\CRF3\03122002\1966803.raw

92				260					265					270			
93	AAG (	GTC	TAC	TTC	CTC	ACT	CCA	GAT	GCG	GGC	AGG	GTA	AAC	CTC	TGG	CTC	864
94	Lys '	Val	Tyr	Phe	Leu	Thr	Pro	Asp	Ala	Gly	Arg	Val	Asn	Leu	Trp	Leu	
95			275					280					285				
96	TGG (	GAC	GGG	AAG	GCC	GAG	CGT	GTT	GTT	ACC	GGC	GAC	CAC	TGG	TTA	TAC	912
97	Trp A	Asp	Gly	Lys	Ala	Glu	Arg	Val	Val	Thr	Gly	Asp	His	Trp	Ile	Tyr	
98		290					295					300					
99	GGG (	CTT	GAC	GTC	AGC	GAT	GGC	AAA	GCA	TTG	CTC	CTC	ATC	ATG	ACC	GCC	960
100	Gly	Leu	Asp	Val	Ser	Asp	Gly	Lys	. Ala	Leu	ı Let	ı Let	ı Ile	Met	Thr	` Ala	ı
101	305					310					315	5				320	)
102	ACG	AGG	ATA	GGC	GAG	CTC	TAC	CTC	TAC	GAC	GGC	GAG	CTG	AAA	CAG	GTC	1008
103	Thr	Arg	Ile	Gly	Glu	Leu	Tyr	Leu	ı Tyr	Asp	Gly	g Glu	ı Leu	Lys	Glr	val	-
104			-		325					330	)				335	i	
105																	1056
106	Thr	Glu	Tyr	Asn	Gly	Pro	Ile	Phe	e Arg	, Lys	Let	ı Lys	Thr	Phe	Glu	Pro	)
107				340					345					350			
108																	1104
109	Arg	His	Phe	Arg	Phe	Lys	Ser	. Lys	Asp	Let	ı Glu	ı Ile	a Asp	Gly	Trp	туг	•
110			355					360					365				
111																	1152
112	Leu	_		Glu	Val	Lys			ı Lys	Ala	a Pro		. Ile	· Val	Phe	val	-
113		370					375					380		_			
114																	1200
115		Gly	Gly	Pro	Lys			. Tyr	GLY	His	-		val	Tyr	GIu		
116	385					390					395					400	
117																	1248
118	GIn	Leu	мет	Ата		_	GLY	туг	Tyr			. Phe	val	Asn			ſ
119	000		a.a	000	405		<i>a</i> , ,	03.0		410					415		1206
120																	1296
121	GTÀ	ser	ASP	_	_	ser	GIU	ASE			тес	Arg	Val	. ьец 430		Arg	
122 123	х Ст	ccc	መመረ	420		முருமு	CAC	CAC	425 מידיגי		י אאר		ነ አጥር	-		י ייייירי	1344
123													, Ale				
125	1111	СТУ	435		ASP	Pile	GIU	440		. Met	. ASI	і СІУ	445		GIU	FILE	1
126	ጥጥረ	AAC			CCG	CAG	GCC			. GAG	: ccc	י כייים			ΔCG	GGC	1392
127													. Gly				
128	1 110	450	Lea	014	110	01	455	_		010	• ••••	460	_			011	
129	АТА		TAC	GGC	GGC	TTC			. AAC	TGG	GCC			CAG	AGC	GAC	1440
130													Thr				
131													_			480	
132															СТС	ACC	1488
133													Tyr				
134			-		485					490			-	-	495		
135	AGC	TAC	GCC	TTC	TCG	GAC	ATA	GGG	CTC	TGG	TAC	GAC	GTC	GAG	GTC	ATC	1536
136	Ser	Tyr	Ala	Phe	Ser	Asp	Ile	Gly	Leu	Trp	туг	Asp	Val	Glu	Val	Ile	
137		-		500		_		-	505	_	-	-		510		-	
138	GGG	CCA	AAT	CCG	TTA	GAG	AAC	GAG	AAC	TTC	AGG	AAG	CTC	AGC	CCG	CTG	1584
139	Gly	Pro	Asn	Pro	Leu	Glu	Asn	Glu	Asn	Phe	Arg	Lys	Leu	Ser	Pro	Leu	
140			515					520					525				

Input Set : N:\Crf3\RULE60\09966803.raw
Output Set: N:\CRF3\03122002\1966803.raw

$\begin{array}{c} 141 \\ 142 \end{array}$		TAC Tyr															1632
143	21.0	530	<b></b>	000	тат	000	535	a . a	<b>a.</b> a	3.00	Omm.	540	mma	ma a	330	ama	1.000
144 145		Asp															1680
146	545	_	+ Y 1	nrg	Cys	550	пса	upb	0.1.11	001	555	1100	1110	- 7 -	11511	560	
147			GAC	ATG	GGC		GAA	GCC	TAC	ATA		ATA	TTC	AAG	CGC		1728
148		Lys															
149					565					570					575		
150	GCC	CAC	GGC	CAC	AGC	GTC	CGC	GGA	AGC	CCG	AGG	CAC	AGG	CCG	AAG	CGC	1776
151	Ala	His	Gly		Ser	Val	Arg	Gly		Pro	Arg	His	Arg		Lys	Arg	
152				580					585					590			
153																	1824
154	Tyr	Arg		Phe	TTE	Glu	Phe		GLu	Arg	ьуs	Leu		Lys	Tyr	GLu	
155	CAC	ccc	595	CAC	CILIA	CAC	7 7 C	600	CTP C	7 7 C	ccc	אאת	605	2 2 C	mc a		1869
156 157		GGC Gly													IGA		1003
158	GIU	610	PHE	GIU	vaı	GIU	615	116	Leu	гу	GTY	620	СТУ	ASII			
160 (	2) INFO		TON 1	FOR S	SEO	TD NO		•				020					
161																	
162	(-,								S								
163	(A) LENGTH: 622 AMINO ACIDS (B) TYPE: AMINO ACID																
164	· ·																
165		(D	) TOI	POLO	GY: ]	LINE	AR										*
166	(ii)	MOT.	PCITT 1	ים ידעו	DTD . 1	ושסמו	PTN										
T 0 0																	
167	(xi)	SEQ	UENCI	E DE	SCRI	OITS	N: S										
167 168	(xi)		UENCI	E DE	Glu	OITS	N: S			Thr	Phe	Ser	Lys	Phe		Tyr	
167 168 169	(xi) Met	SEQ! Thr	UENCI Gly	E DES	SCRII Glu 5	PTIOI Trp	N: Si Asn	His	Glu	Thr 10					15		
167 168 169 170	(xi) Met	SEQ	UENCI Gly	E DE: Ile Pro	SCRII Glu 5	PTIOI Trp	N: Si Asn	His	Glu Asn	Thr 10				Thr	15		
167 168 169 170 171	(xi) Met Leu	SEQI Thr	UENCI Gly Asp	Ile Pro 20	SCRII Glu 5 Arg	TTION Trp Ile	N: SI Asn Arg	His Gly	Glu Asn 25	Thr 10 Leu	Ile	Ala	Tyr	Thr 30	15 Leu	Thr	
167 168 169 170 171	(xi) Met Leu	SEQ! Thr	UENCI Gly Asp Asn	Ile Pro 20	SCRII Glu 5 Arg	TTION Trp Ile	N: SI Asn Arg	His Gly Lys	Glu Asn 25	Thr 10 Leu	Ile	Ala	Tyr Val	Thr 30	15 Leu	Thr	
167 168 169 170 171 172 173	(xi) Met Leu Lys	SEQUENT Thr Gly Ala	UENCI Gly Asp Asn 35	Ile Ile Pro 20 Met	GCRII Glu 5 Arg Lys	TTION Trp Ile Asp	N: Si Asn Arg Asn	His Gly Lys 40	Glu Asn 25 Tyr	Thr 10 Leu Glu	Ile Ser	Ala Thr	Tyr Val 45	Thr 30 Val	15 Leu Val	Thr Glu	
167 168 169 170 171	(xi) Met Leu Lys	SEQI Thr	UENCI Gly Asp Asn 35	Ile Ile Pro 20 Met	GCRII Glu 5 Arg Lys	TTION Trp Ile Asp	N: Si Asn Arg Asn	His Gly Lys 40	Glu Asn 25 Tyr	Thr 10 Leu Glu	Ile Ser	Ala Thr	Tyr Val 45	Thr 30 Val	15 Leu Val	Thr Glu	
167 168 169 170 171 172 173 174	(xi) Met Leu Lys Asp	SEQUENT Thr Gly Ala Leu	UENCI Gly Asp Asn 35 Glu	E DES Ile Pro 20 Met Thr	GCRII Glu 5 Arg Lys Gly	PTION Trp Ile Asp Ser	Asn Arg Asn Arg Asn	His Gly Lys 40 Arg	Glu Asn 25 Tyr Phe	Thr 10 Leu Glu Ile	Ile Ser Glu	Ala Thr Asn 60	Tyr Val 45 Ala	Thr 30 Val Ser	15 Leu Val Met	Thr Glu Pro	
167 168 169 170 171 172 173 174	(xi) Met Leu Lys Asp	SEQUENTHY Gly Ala Leu 50 Ile	UENCI Gly Asp Asn 35 Glu	E DES Ile Pro 20 Met Thr	GCRII Glu 5 Arg Lys Gly	PTION Trp Ile Asp Ser	Asn Arg Asn Arg Asn	His Gly Lys 40 Arg	Glu Asn 25 Tyr Phe	Thr 10 Leu Glu Ile	Ile Ser Glu	Ala Thr Asn 60	Tyr Val 45 Ala	Thr 30 Val Ser	15 Leu Val Met	Thr Glu Pro	
167 168 169 170 171 172 173 174 175	(xi) Met Leu Lys Asp Arg	SEQUENTHY Gly Ala Leu 50 Ile	Gly Asp Asn 35 Glu Ser	Pro 20 Met Thr	GCRII Glu 5 Arg Lys Gly Asp	TTION Trp Ile Asp Ser Gly 70	Arg Asn Arg Asn Arg Asn Arg	His Gly Lys 40 Arg Lys	Glu Asn 25 Tyr Phe Leu	Thr 10 Leu Glu Ile Ala	Ile Ser Glu Phe 75	Ala Thr Asn 60 Thr	Tyr Val 45 Ala Cys	Thr 30 Val Ser	15 Leu Val Met Asn	Thr Glu Pro Glu 80	
167 168 169 170 171 172 173 174 175 176	(xi) Met Leu Lys Asp Arg	SEQUENTHY Gly Ala Leu 50 Ile	Gly Asp Asn 35 Glu Ser	Pro 20 Met Thr	GCRII Glu 5 Arg Lys Gly Asp	TTION Trp Ile Asp Ser Gly 70	Arg Asn Arg Asn Arg Asn Arg	His Gly Lys 40 Arg Lys	Glu Asn 25 Tyr Phe Leu	Thr 10 Leu Glu Ile Ala	Ile Ser Glu Phe 75	Ala Thr Asn 60 Thr	Tyr Val 45 Ala Cys	Thr 30 Val Ser	15 Leu Val Met Asn	Thr Glu Pro Glu 80	
167 168 169 170 171 172 173 174 175 176 177 178 179 180	(xi) Met Leu Lys Asp Arg 65 Glu	SEQUENTE Gly Ala Leu 50 Ile Lys Lys	JENCI Gly Asp Asn 35 Glu Ser Lys	Pro 20 Met Thr Pro Glu	Glu 5 Arg Lys Gly Asp Thr 85 Leu	TION Trp Ile Asp Ser Gly 70 Glu Ser	Asn Arg Asn Arg 55 Arg Ile	His Gly Lys 40 Arg Lys Trp	Asn 25 Tyr Phe Leu Val	Thr 10 Leu Glu Ile Ala 90 Val	Ile Ser Glu Phe 75 Asp	Ala Thr Asn 60 Thr Ile Ser	Tyr Val 45 Ala Cys Gln Met	Thr 30 Val Ser Phe Thr	15 Leu Val Met Asn Leu 95 Trp	Thr Glu Pro Glu 80 Ser	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181	(xi) Met Leu Lys Asp Arg 65 Glu	SEQUENT Thr Gly Ala Leu 50 Ile Lys Lys	UENCI Gly Asp Asn 35 Glu Ser Lys	Pro 20 Met Thr Pro Glu Val 100	Glu 5 Arg Lys Gly Asp Thr 85 Leu	TION Trp Ile Asp Ser Gly 70 Glu Ser	Asn Arg Asn Arg 55 Arg Ile	His Gly Lys 40 Arg Lys Trp Lys	Asn 25 Tyr Phe Leu Val Asn 105	Thr 10 Leu Glu Ile Ala Ala 90 Val	Ile Ser Glu Phe 75 Asp	Ala Thr Asn 60 Thr Ile Ser	Tyr Val 45 Ala Cys Gln Met	Thr 30 Val Ser Phe Thr Gln 110	15 Leu Val Met Asn Leu 95 Trp	Thr Glu Pro Glu 80 Ser Asn	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181	(xi) Met Leu Lys Asp Arg 65 Glu	SEQUENTE Gly Ala Leu 50 Ile Lys Lys	Asp Asn 35 Glu Ser Lys Lys Ser	Pro 20 Met Thr Pro Glu Val 100	Glu 5 Arg Lys Gly Asp Thr 85 Leu	TION Trp Ile Asp Ser Gly 70 Glu Ser	Asn Arg Asn Arg 55 Arg Ile	His Gly Lys 40 Arg Lys Trp Lys Val	Asn 25 Tyr Phe Leu Val Asn 105	Thr 10 Leu Glu Ile Ala Ala 90 Val	Ile Ser Glu Phe 75 Asp	Ala Thr Asn 60 Thr Ile Ser	Tyr Val 45 Ala Cys Gln Met Arg	Thr 30 Val Ser Phe Thr Gln 110	15 Leu Val Met Asn Leu 95 Trp	Thr Glu Pro Glu 80 Ser Asn	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183	(xi) Met Leu Lys Asp 65 Glu Ala	SEQUENT Thr Gly Ala Leu 50 Ile Lys Lys Asp	Asp Asn 35 Glu Ser Lys Lys Ser 115	Pro 20 Met Thr Pro Glu Val 100 Arg	GCRII Glu 5 Arg Lys Gly Asp Thr 85 Leu Arg	TTION Trp Ile Asp Ser Gly 70 Glu Ser Leu	Asn Arg Asn Arg 55 Arg Ile Thr	His Gly Lys 40 Arg Lys Trp Lys Val 120	Asn 25 Tyr Phe Leu Val Asn 105 Val	Thr 10 Leu Glu Ile Ala Ala 90 Val Gly	Ile Ser Glu Phe 75 Asp Arg	Ala Thr Asn 60 Thr Ile Ser Lys	Tyr Val 45 Ala Cys Gln Met Arg 125	Thr 30 Val Ser Phe Thr Gln 110 Arg	15 Leu Val Met Asn Leu 95 Trp	Thr Glu Pro Glu 80 Ser Asn	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184	(xi) Met Leu Lys Asp 65 Glu Ala	SEQUENT Thr Gly Ala Leu 50 Ile Lys Lys Asp	Asp Asn 35 Glu Ser Lys Lys Ser 115	Pro 20 Met Thr Pro Glu Val 100 Arg	GCRII Glu 5 Arg Lys Gly Asp Thr 85 Leu Arg	TTION Trp Ile Asp Ser Gly 70 Glu Ser Leu	Asn Arg Asn Arg 55 Arg Ile Thr Leu Asp	His Gly Lys 40 Arg Lys Trp Lys Val 120	Asn 25 Tyr Phe Leu Val Asn 105 Val	Thr 10 Leu Glu Ile Ala Ala 90 Val Gly	Ile Ser Glu Phe 75 Asp Arg	Ala Thr Asn 60 Thr Ile Ser Lys	Tyr Val 45 Ala Cys Gln Met Arg 125	Thr 30 Val Ser Phe Thr Gln 110 Arg	15 Leu Val Met Asn Leu 95 Trp	Thr Glu Pro Glu 80 Ser Asn	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185	(xi) Met Leu Lys Asp 65 Glu Ala Asp	SEQUENT Thr Gly Ala Leu 50 Ile Lys Lys Asp Asp 130	Asp Asn 35 Glu Ser Lys Lys Ser 115 Phe	Pro 20 Met Thr Pro Glu Val 100 Arg	GCRII Glu 5 Arg Lys Gly Asp Thr 85 Leu Arg	TTION Trp Ile Asp Ser Gly 70 Glu Ser Leu Asp	Asn Arg Asn Arg 55 Arg Ile Thr Leu Asp 135	His Gly Lys 40 Arg Lys Trp Lys Val 120 Asp	Asn 25 Tyr Phe Leu Val Asn 105 Val	Thr 10 Leu Glu Ile Ala 90 Val Gly Pro	Ile Ser Glu Phe 75 Asp Arg Phe Val	Ala Thr Asn 60 Thr Ile Ser Lys Trp 140	Tyr Val 45 Ala Cys Gln Met Arg 125 Phe	Thr 30 Val Ser Phe Thr Gln 110 Arg	15 Leu Val Met Asn Leu 95 Trp Asp	Thr Glu Pro Glu 80 Ser Asn Asp	
167 168 169 170 171 172 173 174 175 176 177 178 180 181 182 183 184 185 186	(xi) Met Leu Lys Asp 65 Glu Ala Asp Glu Gly	SEQUENT Thr Gly Ala Leu 50 Ile Lys Lys Asp	Asp Asn 35 Glu Ser Lys Lys Ser 115 Phe	Pro 20 Met Thr Pro Glu Val 100 Arg	GCRII Glu 5 Arg Lys Gly Asp Thr 85 Leu Arg	TTION Trp Ile Asp Ser Gly 70 Glu Ser Leu Asp	Asn Arg Asn Arg 55 Arg Ile Thr Leu Asp 135	His Gly Lys 40 Arg Lys Trp Lys Val 120 Asp	Asn 25 Tyr Phe Leu Val Asn 105 Val	Thr 10 Leu Glu Ile Ala 90 Val Gly Pro	Ile Ser Glu Phe 75 Asp Arg Phe Val Trp	Ala Thr Asn 60 Thr Ile Ser Lys Trp 140	Tyr Val 45 Ala Cys Gln Met Arg 125 Phe	Thr 30 Val Ser Phe Thr Gln 110 Arg	15 Leu Val Met Asn Leu 95 Trp Asp	Thr Glu Pro Glu 80 Ser Asn Asp Met Glu	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186	(xi) Met Leu Lys Asp 65, Glu Ala Asp Glu Gly 145	Gly Ala Leu 50 Ile Lys Lys Asp Asp 130 Phe	Asp Asn 35 Glu Ser Lys Lys Ser 115 Phe	Pro 20 Met Thr Pro Glu Val 100 Arg Val Asp	CRIII Glu 5 Arg Lys Gly Asp Thr 85 Leu Arg Phe Gly	TION Trp Ile Asp Ser Gly 70 Glu Ser Leu Asp Glu 150	Asn Arg Asn Arg 55 Arg Ile Thr Leu Asp 135 Lys	His Gly Lys 40 Arg Lys Trp Lys Val 120 Asp	Asn 25 Tyr Phe Leu Val Asn 105 Val Val Thr	Thr 10 Leu Glu Ile Ala 90 Val Gly Pro	Ile Ser Glu Phe 75 Asp Arg Phe Val Trp 155	Ala Thr Asn 60 Thr Ile Ser Lys Trp 140 Val	Tyr Val 45 Ala Cys Gln Met Arg 125 Phe Leu	Thr 30 Val Ser Phe Thr Gln 110 Arg Asp	15 Leu Val Met Asn Leu 95 Trp Asp Asn Thr	Thr Glu Pro Glu 80 Ser Asn Asp Met Glu 160	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188	(xi) Met Leu Lys Asp 65, Glu Ala Asp Glu Gly 145	SEQUENT Thr Gly Ala Leu 50 Ile Lys Lys Asp Asp 130	Asp Asn 35 Glu Ser Lys Lys Ser 115 Phe	Pro 20 Met Thr Pro Glu Val 100 Arg Val Asp	CRIII Glu 5 Arg Lys Gly Asp Thr 85 Leu Arg Phe Gly	TION Trp Ile Asp Ser Gly 70 Glu Ser Leu Asp Glu 150	Asn Arg Asn Arg 55 Arg Ile Thr Leu Asp 135 Lys	His Gly Lys 40 Arg Lys Trp Lys Val 120 Asp	Asn 25 Tyr Phe Leu Val Asn 105 Val Val Thr	Thr 10 Leu Glu Ile Ala 90 Val Gly Pro	Ile Ser Glu Phe 75 Asp Arg Phe Val Trp 155 Pro	Ala Thr Asn 60 Thr Ile Ser Lys Trp 140 Val	Tyr Val 45 Ala Cys Gln Met Arg 125 Phe Leu	Thr 30 Val Ser Phe Thr Gln 110 Arg Asp	15 Leu Val Met Asn Leu 95 Trp Asp Asn Thr	Thr Glu Pro Glu 80 Ser Asn Asp Met Glu 160	
167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186	Leu Lys Asp 65 Glu Ala Asp Glu Gly 145 Ala	Gly Ala Leu 50 Ile Lys Lys Asp Asp 130 Phe	Asp Asn 35 Glu Ser Lys Lys Ser 115 Phe Phe Glu	Pro 20 Met Thr Pro Glu Val 100 Arg Val Asp Ile	CRIII Glu 5 Arg Lys Gly Asp Thr 85 Leu Arg Phe Gly Ile 165	TTION Trp Ile Asp Ser Gly 70 Glu Ser Leu Asp Glu 150 Glu	Asn Arg Asn Arg 55 Arg Ile Thr Leu Asp 135 Lys Gln	His Gly Lys 40 Arg Lys Trp Lys Val 120 Asp Thr	Asn 25 Tyr Phe Leu Val Asn 105 Val Val Thr Glu	Thr 10 Leu Glu Ile Ala 90 Val Gly Pro Phe Lys 170	Ile Ser Glu Phe 75 Asp Arg Phe Val Trp 155 Pro	Ala Thr Asn 60 Thr Ile Ser Lys Trp 140 Val Arg	Tyr Val 45 Ala Cys Gln Met Arg 125 Phe Leu Phe	Thr 30 Val Ser Phe Thr Gln 110 Arg Asp Asp	15 Leu Val Met Asn Leu 95 Trp Asp Asn Thr	Thr Glu Pro Glu 80 Ser Asn Asp Met Glu 160 Gly	

Input Set : N:\Crf3\RULE60\09966803.raw
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Ser Lys Pro Ala Leu Phe Lys Phe Tyr Asp Ile Val Leu Tyr Lys Asp 193	191				180					185					190		
195		Ser	T.v.c	Pro		Len	Dhe	T.VS	Phe			Tle	Va 1	T.e.ii		Lvs	Asp
194	•	DCI	DyS		niu	LCu	THE	БуЗ		- 1 -	1105	110	, 41			<i>u</i> <sub>1</sub> <i>u</i>	шьр
195		G1 v	G111		Glu	T.vg	Τ.Δ.11	Dhe		Δrα	Va l	Ser	Phe		Δla	Va 1	Asp
Ser Asp Gly Lys Arg Ile Leu Leu Arg Gly Lys Lys Lys Lys Lys Arg Phe		GLY		Giu	Oiu	шуз	цси		Olu	1119	vul	DCI		GIU	······	, 41	p
198		Sar		Clv	Lare	Δra	Tlα		Τ.Δ11	Δra	Glv	Lvc		T.v.c	T.v.c	Δrα	Dhe
The Ser Glu His Asp Trp Leu Trp Leu Trp Asp Gly Glu Leu Lys Pro			изр	Gry	nys	AT 9		цец	пси	nrg	Gry		цуз	цуз	цуз	ni 9	
199			Sar	Glu	Hic	Δen		Ι.Δ.1	Ψълг	T.A.11	Trn		Glv	Glu	T.en	T.vc	
The Tyr Glu Gly Pro Leu Asp Val Trp Glu Ala Lys Leu Thr Glu Gly 260		116	Ser	Giu	1113	-	115	пса	- y -	пси	_	nop	O L J	Olu	ыси	_	110
201		т1а	Тτεν	C1u	Glv		Τ.Δ11	Δen	Va 1	Trn		Δla	T.37 C	T.@11	Thr		Glv
Lys Val Tyr Phe Leu Thr Pro Asp Ala Gly Arg Val Asn Leu Trp Leu 280		110	111	GIU	_	110	Deu	пор	vai	_	O L u	mu	<b>_</b>	БСи		Olu	011
203		Luc	Va l	Тиг		T.en	Thr	Pro	Δsn	-	Glv	Δτα	Val	Δgn		Trn	Len
Trp Asp Gly Lys Ala Glu Arg Val Val Thr Gly Asp His Trp Ile Tyr 290		цуз	VUI	-	THE	пси	1111	110	-	niu	OLY	my	141		пси		Lou
295		Trn	Aen		T.v.c	Δla	Glu	Δrσ		Va 1	Thr	Glv	Asn		Tro	Tle	Tyr
Signature   Sign		тър	_	Сту	цуз	Ата	GIU	-	Val	val	1111	Gry		1113	112	110	1 7 1
207		G1 v		Δen	Val	Sar	Δen		T.vc	Δla	T.011	T.e.11		Tle	Met	Thr	Δla
The   The   The   Steel   Glu   Leu   Tyr   Leu   Tyr   Asp   Gly   Glu   Leu   Lys   Gln   Val   209   210   The   Glu   Tyr   Asp   Gly   Pro   Ite   Phe   Arg   Lys   Leu   Lys   The   Phe   Glu   Pro   Steel   Tyr   Tyr   Steel   Tyr		_	Бец	voh	Val	261		СТУ	пуз	ALG	ьси		пец	110	nec	1111	
209			λνα	Tla	Glv	Glu		Tvr	Τ.Δ11	Ttr	Δen	-	Glu	T.011	T.v.c	Gln	
The Glu Tyr Asn Gly Pro Ile Phe Arg Lys Leu Lys The Phe Glu Pro 345   340   340   345   345   345   350   350   350   350   360   360   365		1111	лту	116	СТУ		пец	1 <b>y</b> 1	пси	1 Y 1		OLY	OIu	ыси	БуЗ		vul
211		Thr	Glu	Тталт	Aen		Dro	Tlo	Dho	Δra		T.011	Lve	Thr	Dhe		Pro
Arg His Phe Arg Phe Lys Ser Lys Asp Leu Glu Ile Asp Gly Trp Tyr 355   360   360   365   365   365   361   370   375   370   375   370   375   370   375   370   375   370   375   370   375   370   375   370   375   370   375   370   375   370   375   380		1111	GIU	тут		GLY	FIU	116	rne		БУЗ	DCu	цуз	1111		GIU	110
113		λκα	Uic	Dho		Dha	T.37.C	Sor	T.vc		Ι.Δ.1	Glu	Tle	Δen		Trn	Туг
The lear arg		ALG	птъ		-	rne	цуз	DCI		изъ	пец	Giu	110		OLY	111	1 7 1
215		Lou	λκα			Val	Lare	Glu		T.v.e	Δla	Dro	Va 1		Va l	Dho	Va 1
His Gly Gly Pro Lys Gly Met Tyr Gly His Arg Phe Val Tyr Glu Met   17		пси	-	110	Olu	vai	цуз		Olu	בעם	mu	110		110	, u _	1110	var
17		Hic		G1v	Dro	T.V.C	Glv		ጥህን	G1 v	His	Δτα		Va 1	Tur	Glu	Met
Simple   Color   Col			GLY	GLY	110	цуз		IIC C	- 1 -	OLY	1113		1110		- 1 -	OIU	
219			T.e.u	Met	Δla	Ser		Glv	Tur	Tur	Va 1		Phe	va 1	Asn	Pro	
220 Gly Ser Asp Gly Tyr Ser Glu Asp Phe Ala Leu Arg Val Leu Glu Arg 221		OIII	пси	rice	ALG		БуБ	OLY	- 7 -	+ y +		, u i	1110	141	11.511		**** 9
221       420       425       430       430       440       425       430       460       460       480       490       445       460       4		C1 v	Sar	Δen	Glv		Sar	Glu	Δen	Dho		T. <b>Q</b> 11	Δrσ	Val	T.eu		Ara
222       Thr Gly Leu Glu Asp Phe Glu Asp Ile Met Asn Gly Ile Glu Glu Phe 435       440       450       445       465       455       455       460       460       460       460       460       460       460       460       460       460       460       470       475       475       475       480       480       480       480       480       480       480       480       480       480       490       475       475       475       475       475       475       480       480       480       480       480       480       480       480       490       475       475       475       475       475       475       475       475       475       475       475       475		OLY	DCI	пор	_	- 1 -	DCI	Olu	7100		1114	пса	9	,		<b>01</b> u	1119
223       435       440       445       445       445       445       445       445       445       445       445       445       445       445       446       450       11e Ser Tyr Gly Gly Phe Met Af5       450       460       475       475       475       475       480       480       460       475       475       475       475       475       475       475       475       475       475       475       475		Thr	Glv	T.eu		Asn	Phe	G111	Asp		Met	Asn	Glv	Tle		Glu	Phe
224       Phe Lys Leu Glu Pro Gln Ala Asp Arg Glu Arg Glu Arg Val Gly Ile Thr Gly 450       450       455       460       480       480       470       470       470       470       475       475       480       480       480       480       480       480       480       480       480       490       470       490 </td <td></td> <td>1111</td> <td>011</td> <td></td> <td>014</td> <td>пор</td> <td>1 110</td> <td>014</td> <td>_</td> <td></td> <td>1100</td> <td>11011</td> <td></td> <td></td> <td>014</td> <td>014</td> <td></td>		1111	011		014	пор	1 110	014	_		1100	11011			014	014	
225       450       455       460         226       11e       Ser       Tyr       Gly       Phe       Met       Thr       Asn       Trp       Ala       Leu       Thr       Gln       Ser       Asp         227       465       465       470       470       475       475       161       Ser       Asp       480         228       Leu       Phe       Lys       Ala       Gly       Ile       Ser       Glu       Asn       Gly       Ile       Ser       Tyr       480         229       70       Asa       Phe       Asa       Asa       Ile       Gly       Leu       Tyr       Asp       Ile       Tyr       Asp       Ile       Gly       Leu       Tyr       Asp       Ile       Tyr       Asp       Ile       Tyr       Asp       Ile       Tyr       Asp       Ile       Ile       Asp       Ile       Ile       Asp       Ile       Ile       Il		Phe	Lvs		Glu	Pro	Gln	Ala		Ara	Glu	Ara	Va 1		Tle	Thr	Glv
The Ser Tyr Gly Gly Phe Met Thr Asn Trp Ala Leu Thr Gln Ser Asp   227   465   470   470   475   475   475   480   480   228   Leu Phe Lys Ala Gly Ile Ser Glu Asn Gly Ile Ser Tyr Trp Leu Thr 229   485   485   485   490   490   495   495   495   495   423   485   485   490   495		1110	_	БСС	014	110	<b>0</b> ±11			**** 9	014						01
227       465       470       475       475       480         228       Leu Phe Lys Ala Gly Ile Ser Glu Asn Gly Ile Ser Tyr Trp Leu Thr       480       490       11e Ser Tyr Trp Leu Thr       495         230       Ser Tyr Ala Phe Ser Asp Ile Gly Leu Trp Tyr Asp Val Glu Val Ile       500       505       505       500       510       500       510       500       500       505       505       500       510       500		Tle		Tvr	Glv	Glv	Phe		Thr	Asn	Trp	Ala		Thr	Gln	Ser	Asp
Leu Phe Lys Ala Gly Ile Ser Glu Asn Gly Ile Ser Tyr Trp Leu Thr 229  Ser Tyr Ala Phe Ser Asp Ile Gly Leu Trp Tyr Asp Val Glu Val Ile 231  Gly Pro Asn Pro Leu Glu Asn Glu Asn Phe Arg Lys Leu Ser Pro Leu 233  Phe Tyr Ala Gln Asn Val Lys Ala Pro Ile Leu Leu Ile His Ser Leu 235  Glu Asp Tyr Arg Cys Pro Leu Asp Gln Ser Leu Met Phe Tyr Asn Val 236  Glu Asp Met Gly Lys Glu Ala Tyr Ile Ala Ile Phe Lys Arg Gly			DCI	-1-									200		0		_
229			Phe	Lvs	Ala	G1 v		Ser	Glu	Asn	Glv		Ser	Tvr	Trp	Leu	
230 Ser Tyr Ala Phe Ser Asp Ile Gly Leu Trp Tyr Asp Val Glu Val Ile 231 500 7 500 7 500 7 500 7 500 7 500 7 510 7		Lou				_		001			_			-1-			
231		Ser	Tvr	Ala	Phe		Asp	Ile	Glv	Leu		Tvr	Asp	Val	Glu		Ile
232 Gly Pro Asn Pro Leu Glu Asn Glu Asn Phe Arg Lys Leu Ser Pro Leu 233			-1-						1			4					
233		Glv	Pro	Asn		Leu	Glu	Asn	Glu		Phe	Arq	Lvs	Leu		Pro	Leu
234 Phe Tyr Ala Gln Asn Val Lys Ala Pro Ile Leu Leu Ile His Ser Leu 235 530 Fyr Arg Cys Pro Leu Asp Gln Ser Leu Met Phe Tyr Asn Val 237 545 Fyr S50 Fyr Glu Ala Tyr Ile Ala Ile Phe Lys Arg Gly		1											- 4				
235 530 535 540  236 Glu Asp Tyr Arg Cys Pro Leu Asp Gln Ser Leu Met Phe Tyr Asn Val 237 545 550 555 560  238 Leu Lys Asp Met Gly Lys Glu Ala Tyr Ile Ala Ile Phe Lys Arg Gly		Phe	Tyr		Gln	Asn	Val	Lys		Pro	Ile	Leu	Leu		His	Ser	Leu
Glu Asp Tyr Arg Cys Pro Leu Asp Gln Ser Leu Met Phe Tyr Asn Val 545 550 555 560 Leu Lys Asp Met Gly Lys Glu Ala Tyr Ile Ala Ile Phe Lys Arg Gly		•					·		•								
545 550 555 560 Leu Lys Asp Met Gly Lys Glu Ala Tyr Ile Ala Ile Phe Lys Arg Gly		Glu		Tyr	Arq	Cys	$\overline{\mathtt{Pro}}$		Asp	Gln	Ser	Leu		Phe	Tyr	Asn	Val
Leu Lys Asp Met Gly Lys Glu Ala Tyr Ile Ala Ile Phe Lys Arg Gly			<u>.</u>	<u>.</u> –	- 2										•		
			Lys	Asp	Met	Gly	Lys	Glu	Ala	Tyr	Ile	Ala	Ile	Phe	Lys	Arg	Gly
			_	-			-			_					•		-

**VERIFICATION SUMMARY** 

DATE: 03/12/2002

PATENT APPLICATION: US/09/966,803

TIME: 09:44:21

Input Set : N:\Crf3\RULE60\09966803.raw
Output Set: N:\CRF3\03122002\1966803.raw

L:19 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]

L:20 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:40 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=1

L:43 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:1

L:253 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=3 L:263 M:246 W: Invalid value of Alpha Sequence Header Field, [MOLECULE TYPE:], SeqNo=4